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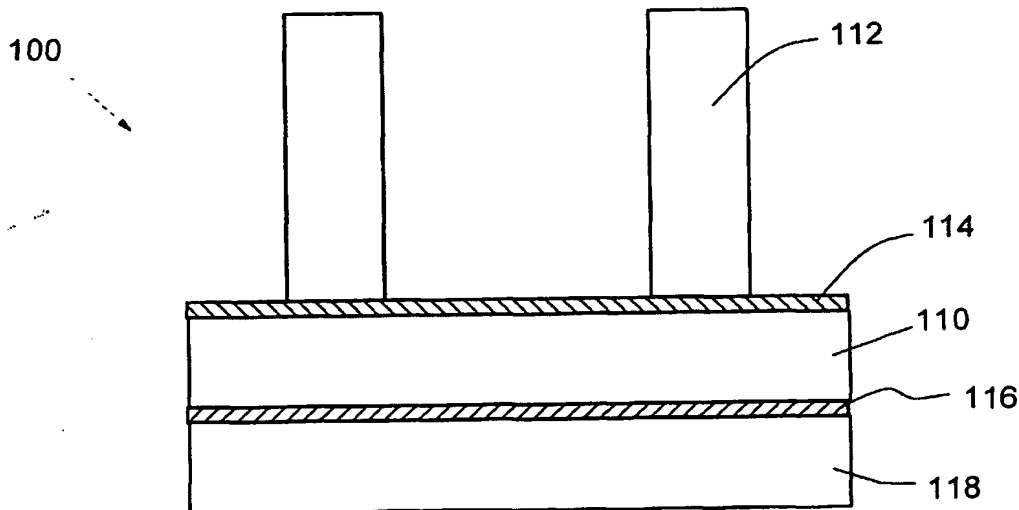
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(54) Title: PLASMA ETCHING OF NI-CONTAINING MATERIALS



(57) Abstract: An apparatus and method are described for etching Ni-containing films using gas phase plasma etching. Etching of Ti-Ni alloys is carried out by exposure to plasma comprising hydrogen halide (HX) and carbonyl etching gases. The Ti in the Ti-Ni alloy is etched via an ion-assisted reaction with HX and the Ni is etched by reacting with CO. The method is particularly well suited for anisotropic etching of Ti-Ni metal gates for CMOS applications. Etching of Ni-Fe layers is carried out by exposure to plasma comprising a carbonyl etching gas.

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